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In the Supreme Court of the United States

OCTOBER TERM, 1975

No. 75-1473

E. I. DUPONT DE NEMOURS AND COMPANY, OLIN CORPORATION, FMC CORPORATION, AMERICAN CYANAMID COMPANY, MONSANTO COMPANY, THE DOW CHEMICAL COMPANY, ALLIED CHEMICAL CORPORATION, HERCULES INCORPORATED, UNION CARBIDE CORPORATION, STAUFFER CHEMICAL COMPANY, DIAMOND SHAMROCK CORPORATION, PPG INDUSTRIES, INCORPORATED, BASF WYANDOTTE CORPORATION, CITIES SERVICE COMPANY, AND N L INDUSTRIES, INCORPORATED,

Petitioners,

v.

RUSSELL E. TRAIN, as Administrator, Environmental Protection Agency,

Respondent.

Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Fourth Circuit

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Petitioners E. I. duPont de Nemours and Company, *et al.*[1] ask that a writ of certiorari issue to review the judgment of the United States Court of Appeals for the Fourth Circuit entered in this case on March 10, 1976.

Opinions Below

The opinion of the court of appeals is not yet officially reported. It is unofficially reported at 8 E.R.C. 1718. The

[1] Petitioners are E. I. duPont de Nemours and Company, Olin Corporation, FMC Corporation, American Cyanamid Company, Monsanto Company, The Dow Chemical Company, Allied Chemical Corporation, Hercules Incorporated, Union Carbide Corporation, Stauffer Chemical Company, Diamond Shamrock Corporation, PPG Industries, Incorporated, BASF Wyandotte Corporation, Cities Service Company, and N L Industries, Incorporated.

opinion and judgment of the court of appeals are annexed hereto as Appendix A.

As noted *infra* the decision of the court of appeals is closely tied to a prior decision of the same court, which earlier decision is the subject of a pending petition for a writ of certiorari. *E. I. duPont de Nemours & Co.* v. *Train*, 528 F.2d 1136 (4th Cir. 1975), *petition for writ of certiorari filed*, No. 75-978.

Concurrently with the filing of this Petition, petitioners are submitting to the Court a motion to consolidate the present Petition with the Petition already docketed at No. 75-978.

Jurisdiction

The judgment of the court of appeals here sought to be reviewed was entered on March 10, 1976. The jurisdiction of this court is invoked under 28 U.S.C. § 1254(1).

Questions Presented[2]

1. Whether district courts or courts of appeals have initial jurisdiction to review regulations issued by the Administrator of the Environmental Protection Agency under the Federal Water Pollution Control Act, as amended, governing wastewater effluent discharges from existing plants.

2. Whether the Federal Water Pollution Control Act, as amended, provides that regulations governing wastewater effluent discharges from existing plants be issued in the form of

(a) "effluent limitations" based upon an authorization said to be implied from Section 301(b) of the Act, or

(b) "guidelines for effluent limitations" in compliance with the express command of Section 304(b) of the Act.

[2] These questions are identical to those presented to this Court in *E. I. duPont de Nemours & Co.* v. *Train*, No. 75-978.

3. Whether when "the Act is not clear" in conferring initial jurisdiction to review regulations for existing plants upon the courts of appeals rather than in providing the normal review in the district courts, the statute should be construed on grounds of practicality to confer such initial jurisdiction on the courts of appeals.

Statutes And Regulations Involved

1. *The Federal Water Pollution Control Act, as amended.* Sections 101, 301, 302, 304, 306, 307, 309, 401, 402, 502, 505 and 509 of the Act (33 U.S.C. §§ 1251, 1311, 1312, 1314, 1316, 1317, 1319, 1341, 1342, 1362, 1365 and 1369) are set forth in Appendix C to Petition, *E. I. duPont de Nemours & Co.* v. *Train*, No. 75-978.

2. *"Effluent Limitations Guidelines" for the Inorganic Chemicals Manufacturing Point Source Category.* The regulations issued by the Administrator which govern the wastewater effluent discharges from existing plants in the Inorganic Chemicals Manufacturing Point Source Category are found at 39 *Fed. Reg.* 9611-9639 (March 12, 1974). They are set forth in Appendix D to Petition, *E. I. duPont de Nemours & Co.* v. *Train*, No. 75-978.

STATEMENT OF THE CASE

This case presents issues of the proper construction to be accorded key sections of the Federal Water Pollution Control Act, as amended ("the Act"), 33 U.S.C. §§ 1251 *et seq.* The issues concern the nature of the statutory authority granted by Congress to the Administrator of the Environmental Protection Agency ("EPA") to issue regulations governing wastewater effluent discharges from existing industrial plants and other existing facilities.

Like the Petition already on file in *E. I. duPont de Nemours & Co.* v. *Train*, No. 75-978 *("duPont I")*, this case specifically relates to EPA's regulations for wastewater effluents from existing facilities in the inorganic chemicals

industry. After informal rulemaking proceedings, on March 12, 1974, the Agency issued final regulations called "[e]ffluent limitations guidelines" for existing facilities in each of 22 product subcategories of the inorganic chemicals industry. (39 *Fed. Reg.* 9611-9635.) EPA said these regulations were being "promulgated pursuant to sections 301 [and] 304(b) . . . of the Federal Water Pollution Control Act, as amended. . . ." (39 *Fed. Reg.* at 9612.)

The fifteen petitioner companies filed timely "protective" petitions for review of the guideline regulations in the U.S. Court of Appeals for the Fourth Circuit. *E.g., E. I. duPont de Nemours & Co.* v. *Train*, No. 74-1261 (4th Cir.).[3] Contemporaneously, eight of the fifteen companies filed a complaint in the U.S. District Court for the Western District of Virginia seeking review of EPA's guideline regulations applicable to existing plants in the sulfuric acid production subcategory of the inorganic chemicals industry. *E. I. duPont de Nemours & Co., et al.* v. *Train, et al.*, Civil Action No. 74-57-R (W.D.Va., filed April 1, 1974). The companies asserted that the district court had jurisdiction of the review action based upon the provisions of 28 U.S.C. §§ 1331, 1332, 1337, 1361 and 1651, the Declaratory Judgment Act, 28 U.S.C. §§ 2201-2202, and Section 10 of the Administrative Procedure Act, now codified as 5 U.S.C. §§ 701-706.

On September 27, 1974, the district court issued an opinion and order dismissing the complaint. *E. I. duPont de Nemours & Co.* v. *Train*, 383 F. Supp. 1244 (W.D.Va. 1974). The district court adopted EPA's contentions that Section 509(b) of the Act, 33 U.S.C. § 1369(b), provided for exclusive jurisdiction of any review action in the courts of appeals. This conclusion by the court was based upon the reference in Section 509(b)(1)(E) to effluent limitations under Section 301, and upon the court's acceptance

[3] EPA took the position that review was in the Court of Appeals under Section 501(b)(1)(E). Where Section 509(b) governs review, paragraph 509(b)(1) requires the filing of a petition for review "within ninety days . . ."

of EPA's argument that the Agency had an implied power to issue effluent limitations by regulation for existing plants under Section 301 of the Act, 33 U.S.C. § 1311. The companies had argued that for such existing plants EPA was explicitly mandated by express language in Section 304(b) of the Act, 33 U.S.C. § 1314(b), to issue guideline regulations. The companies contended that review of such guideline regulations did not fall within Section 509(b)'s special provisions for review in the courts of appeals of certain specified EPA actions. EPA had argued that the ostensible mandate of Section 304(b) for guideline regulations should be disregarded; instead, Section 304(b) should be construed as merely providing a "definitional" basis for establishing effluent limitations by regulation.[4]

An expedited appeal of the district court's decision was taken to the Fourth Circuit. That appeal was consolidated for briefing and argument with the protective petitions for review. The companies maintained their claim that the Agency had not followed the Act in issuing its regulations for existing plants, and they correspondingly contested the jurisdiction of the court of appeals. The companies also challenged the Agency's separate regulations for eleven of the 22 product subcategories on the ground that the regulations were not supported by the administrative record.

The court of appeals issued two decisions in the consolidated cases. In the first decision *(duPont I)* the court dealt with the appeal. It upheld its own jurisdiction to review EPA's action in issuing existing plant regulations and thus affirmed the district court's dismissal of the companies' complaint. The court of appeals separated the question of the Agency's authority from the issue of jurisdiction. It ruled that promulgation by EPA

[4] The dispute over the nature of EPA's authority to issue regulations for the wastewater discharges from existing plants had and has considerable practical significance. EPA argued in the district court that its limitation regulations were to be "mechanically cranked" into discharge permits required under the Act for particular plants, without any special reference to a plant's individual circumstances or to the statutory factors set out in Section 304(b)(1)(B) and 304(b)(2)(B).

of the mandated guideline regulations under Section 304 (b) was a necessary step to attainment of the objectives for existing plants set out in Section 301. Consequently, action by EPA under Section 304(b) "should properly be considered to be pursuant to the provisions of [Section] 301 and, therefore, reviewable by this court under [Section] 509." (528 F.2d at 1142: Petition in No. 75-978, Appendix A, at 11-a.)

The petitioner companies filed with this Court the petition for writ of certiorari pending as No. 75-978 to review the court of appeals' *duPont I* decision.

Then, on March 10, 1976, the court of appeals rendered its decision on the protective petitions for review. *("duPont II".)* The court sustained EPA's claim that it could issue effluent limitations by regulation under Section 301, but it ruled against the Agency on the role to be accorded those regulations. The court held that such existing-plant regulations were not binding on the permit-issuing authorities, but rather were only "presumptively applicable." (Appendix A, at 10-a.) In administrative proceedings to establish a discharge permit for a particular plant, the permit applicant could adduce facts respecting the individual plant or facility to rebut the presumption of applicability.

The court then turned to the challenge to specific aspects of the regulations. It set aside the portions of EPA's regulations of general applicability dealing with "process waste water," "process waste water pollutants," and "catastrophic rainfall." (Appendix A, at 19-a to 20-a.) Then the court focussed on the specific subcategory regulations. The companies had challenged all or part of the regulations for eleven different subcategories. In each instance, the court set aside those portions of the subcategory regulations which had been challenged, *i.e.*, all or part of the regulations for the production of chlorine, hydrochloric acid, hydrofluoric acid, hydrogen peroxide, nitric acid, sodium carbonate, sodium dichromate, sodium metal, sodium silicate, sulfuric acid, and titanium dioxide. (Appendix A, at 32-a to 33-a.)

REASON FOR GRANTING THE WRIT

Consideration of This Case In Conjunction With *duPont I* Would Resolve The Four-Way Conflict Among The Courts Of Appeals Respecting The Statutory Responsibilities Of The Administrator For Existing-Plant Regulations.

The questions presented in this case are identical to those posed in *duPont I*. The record is also identical for both cases; they were consolidated in the court of appeals. And petitioners are filing with this Petition a motion to consolidate this case with No. 75-978.

This separate Petition is being filed only to ensure that the Court has before it a consolidated case which fully presents all aspects of the very important issues of the Administrator's implementation of Sections 301 and 304 of the Act respecting regulations applicable to existing-plant discharges. In the response to the Petition in *duPont I*, the Solicitor General agreed that the Court should grant the petition for a writ of certiorari there presented. (Respondents' Memorandum in No. 75-798, at 1.) He also agreed that each of the three questions set out in the *duPont I* Petition were properly presented and should be considered by the Court. (*Id.*, at 6.) However, he expressed the view that this Court, like the Fourth Circuit, "need not decide the question concerning the Administrator's authority" in resolving the conflict among the circuits over the jurisdictional questions. *(Id.)*

However, as the Fourth Circuit said in *duPont II*, the issue of the Administrator's power "goes to the heart of the controversy." (Appendix A, at 5-a.) There is a two-way conflict among the circuits on the jurisdictional questions, but the circuits have split four different ways on the nature of the Administrator's power to issue effluent regulations for existing plants. Compare *CPC International Inc.* v. *Train*, 515 F.2d 1032 (8th Cir. 1975) (Administrator must issue guideline regulations under Section 304), with *American Meat Institute* v. *Environmental Protection Agency*, 526

F.2d 442 (7th Cir. 1975) (Administrator may issue limitation regulations under Section 301), with *American Iron and Steel Institute* v. *Environmental Protection Agency*, 526 F.2d 1027 (3d Cir. 1975) (Administrator may issue regulations with Section 301 ceilings and Section 304(b) guideline ranges beneath the ceilings), with *duPont II* (Administrator may issue limitation regulations under Section 301 but such regulations are not binding, rather they are "presumptively applicable").

As noted, the petitioner companies prevailed in the court of appeals on those issues which were dependent upon the administrative record. And on the issue of the Administrator's power, the court of appeals did not accept the view of either of the parties but rather adopted elements from each of their positions. Given such results, and the pending Petition in *duPont I*, petitioners ordinarily would not seek review of this case in this Court. However, because the Respondent evidently would advocate a disposition of *duPont I* which would leave outstanding the central issue of the Administrator's power, the petitioner companies have elected to submit this further Petition.

By granting this Petition in conjunction with the Petition in *duPont I*, the Court can consider the matter of the Administrator's power without any constraints, either together with or independent of the jurisdictional issues.

CONCLUSION

As a matter of judicial economy, this Court should grant this Petition along with the previously filed Petition in *duPont I* (No. 75-978). The record in each case is identical as are the questions presented, and all of the petitioners in *duPont I* are also petitioners here. The cases can be consolidated, as in the Fourth Circuit, and a single set of briefs can then be filed.

Until this Court resolves the troublesome and very important issues here presented, the confusing and inconsis-

tent constructions of the key sections of the Federal Water Pollution Control Act will cause delay in achieving the purposes of the Act.

Respectfully submitted,

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APRIL 13, 1976

APPENDIX A

United States Court of Appeals
FOR THE FOURTH CIRCUIT

Nos. 74-1261, 74-1290,
74-1296-1304, 74-1357,
74-1406-7, 74-1588-90,
74-1670-1 and 74-1741

E. I. DUPONT DE NEMOURS & COMPANY
Petitioner,

v.

RUSSELL E. TRAIN, as Administrator of the Environmental Protection Agency,
Respondent,

On petitions for review of actions of the Administrator of the Environmental Protection Agency.*

Argued April 22, 1975 Decided March 10, 1976

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*The following Petitions for Review, all naming Train as Respondent, were consolidated.

74-1261 and 74-1357—DuPont & Co.
74-1290 and 74-1299—Allied Chemical Corp.
74-1296 and 74-1303—FMC Corp.
74-1297 and 74-1304—American Cyanamid Co.
74-1298 and 74-1301—Dow Chemical Co.
74-1300 and 74-1302—Olin Corp.
74-1406 and 74-1407—Stauffer Chemical Co.
74-1588—Diamond Shamrock Corp.
74-1589—PPG Industries, Inc.
74-1590—BASF Wyandotte Corp.
74-1670 and 74-1671—Cities Service Co.
74-1741—NL Industries, Inc.

Before RIVES** and BREITENSTEIN***, Senior Circuit Judges, and WIDENER, Circuit Judge.

Robert C. Barnard, Douglas E. Kliever and Charles F. Lettow for the Petitioners.

Kathryn A. Oberly for Respondent. With her on the briefs were Wallace H. Johnson, Assistant Attorney General, Edmund B. Clark, Attorney, Department of Justice, Alan G. Kirk, II, Assistant Administrator for Enforcement and General Counsel, and Ray E. McDevitt, Attorney, Environmental Protection Agency.

Briefs of Amici Curiae were filed by Angus Macbeth and Edward L. Strohbehn, Jr., for Natural Resources Defense Council, Frederick M. Rowe, Edward W. Warren, and Robert F. VanVoorhees for American Petroleum Institute, et al., Russell E. Leasure and Elliot S. Azoff for RMI Company, George C. Freeman, Jr., Turner T. Smith, Jr., and William A. Anderson, II, for Allegheny Power System, Inc., et al., Milton A. Smith, Lawrence B. Kraus, James F. Rill, Max N. Edwards, Richard E. Schwartz, and Collier, Shannon, Rill & Edwards for the Chamber of Commerce of the United States, Robert H. Young, Kenneth R. Myers and Archibald A. Campbell for New Jersey Zinc Company.

BREITENSTEIN, Senior Circuit Judge.

Companies engaged in the production of inorganic chemicals have filed 20 petitions for review of various regulations promulgated by respondent Train as Administrator of the Environmental Protection Agency. The petitions have been consolidated for presentation and disposition. The regulations were promulgated under the Federal Water Pollution Control Act Amendments of 1972. 33 U.S.C. §§ 1251-1376. Herein for brevity and clarity the Administrator at times will be referred to as EPA and the statutory references will be those found in the Act as set out in

**Of the Fifth Circuit, sitting by designation.

***Of the Tenth Circuit, sitting by designation.

86 Stat. 816 et seq.[1] Petitioners will be referred to collectively as Industry.

Industry's attack on the jurisdiction of the court of appeals has been rejected by our opinion in No. 74-2237, *DuPont & Company v. Train*.

The objective of the Act "is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." § 101(a). The goal is the elimination by 1985 of "the discharge of pollutants into the navigable waters." § 101(a)(1). Earlier legislation, which placed on the states the primary responsibility to maintain water quality, had proven inadequate. S. Rep. No. 92-414, 92 Cong. 2d Sess., 2 U.S. Cong. & Adm. News '72 3674. The Act made "a major change in the enforcement mechanism of the Federal water pollution control program from water quality standards to effluent limits." Ibid. at 3675.

Section 301(a) provides that except in compliance with specified sections of the Act "the discharge of any pollutant by any person shall be unlawful." Section 301(b) says that "to carry out the objective of this Act there shall be achieved" stated effluent limitations. Not later than July 1, 1977, those limitations for point sources, except publicly owned treatment works with which we are not concerned, "shall require the application of the best practicable control technology." § 301(b)(1)(A). For July 1, 1983, the requirement is "the best available technology economically achievable." § 301(b)(2)(A).

The foregoing requirements apply to existing sources. For new sources, § 306(a)(1) requires a standard of per-

[1] The parallel U.S. Code citations for the most frequently mentioned sections are:

Section 101—33 U.S.C. § 1251,
Section 301—33 U.S.C. § 1311,
Section 304—33 U.S.C. § 1314,
Section 306—33 U.S.C. § 1316,
Section 402—33 U.S.C. § 1342,
Section 501—33 U.S.C. § 1361,
Section 502—33 U.S.C. § 1362,
Section 509—33 U.S.C. § 1369.

formance "which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology." Section 306(b)(1)(A) directs the Administrator within 90 days after enactment to publish a list of categories which at the minimum shall include 27 named industries among which is "inorganic chemicals manufacturing." Within one year after publication of the list of categories, the Administrator shall publish Federal standards of performance for new sources within each category. § 306(b)(1)(B).

Primary enforcement of the Act is secured through the permit system established by § 402. Permits for pollutant discharge may be issued by the Administrator, § 402(a)(1), or by a state which has adopted a permit program approved by the Administrator. § 402(b). The Administrator has veto power over a state issued permit. § 402(d)(2). All permits shall comply with the applicable provisions of §§ 301, 306, and other specified sections not including § 304. See § 402(a)(1) and (b)(1)(A).

Section 304 is the cause of much of the controversy. Within one year after enactment, the Administrator must publish "criteria for water quality accurately reflecting the latest scientific knowledge" on enumerated subjects. § 304(a)(1). Within the same period the Administrator shall publish regulations "providing guidelines for effluent limitations." § 304(b). Subsection (b)(1)(A) applies to the 1977 step and subsection (b)(2)(A) to the 1983 step. Each subsection mandates consideration of specified factors.

The Administrator did not act within the one year requirements of § 304. Compliance was not within the realm of reality. There are some 28,000 industrial dischargers and 27,000 others. About 30,000 applications for permits were filed. EPA characterizes the Act as "incredibly complex and demanding." A private suit was brought to compel compliance. The result was a court imposed timetable. *Natural Resources Defense Council, Inc. v. Train*, D.C. Cir., 510 F.2d 692, 710-714.

On March 12, 1974, EPA promulgated "effluent limitations guidelines for existing sources and standards of performance * * * for new sources in the inorganic chemicals manufacturing category of point sources." 39 Fed. Reg. 9612 et seq. These are the regulations under attack. In so doing EPA stated that it acted "pursuant to sections 301, 304(b) and (c), 306(b) and (c) and 307(c)." We are not concerned with § 307 which covers certain toxic pollutants. The regulations prescribe "effluent limitations guidelines for existing sources" and "standards of performance for new sources." 40 C.F.R. 401.10.

Industry attacks the regulations generally and specifically. We shall first consider the objections going to all of the regulations and then discuss those applying to particular sources.

I

GENERAL VALIDITY OF REGULATIONS

(a) Notice.

Industry argues that the regulations are invalid because of EPA's failure to give the notice required by the Administrative Procedure Act, 5 U.S.C. § 553(b). In its October 11, 1973, notice of proposed rule-making, 38 Fed. Reg. 28174 et seq., EPA stated that its proposed action was taken pursuant to §§ 301, 304(b) and (c), 306(b), and § 307(c). Public comments received thereafter are contained in pp. 4884-5346 of the Appendix. In its March 12, 1974, promulgation of the regulations, EPA summarized the comments. See 39 Fed. Reg. 9612-9615.

The rule-making and notice provisions of APA "were designed to assure fairness and mature consideration of rules of general application." *National Labor Relations Board v. Wyman-Gordon Co.*, 394 U.S. 759, 764. Notice is sufficient if it provides a description of the subjects and issues involved. 5 U.S.C. § 553(b)(3) and *California Citizens Band Association v. United States*, 9 Cir., 375 F.2d

43, 49, cert. denied 389 U.S. 844. Industry had adequate notice and took advantage of it.

(b) EPA's power to establish effluent limitations by regulations.

This issue goes to the heart of the controversy. Industry says that the Administrator promulgates guidelines to be considered by the permit issuer. EPA says that the Administrator establishes effluent limitations by regulations which, with exceptions to be noted later, have uniform application throughout the nation and which must be applied by the permit issuer.

(1) Applicable Law.

The Administrative Procedure Act, 5 U.S.C. § 706 (2)(A), authorizes a reviewing court to set aside agency action which is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." As said in *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416, "the court must consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment." See also *Appalachian Power Company v. Environmental Protection Agency*, 4 Cir., 477 F.2d 495, 506-507. The court may not substitute its judgment for that of the agency. Overton Park, 401 U.S. at 416. If the agency's construction of the controlling statute is "sufficiently reasonable" it should be accepted by the reviewing court. *Train v. Natural Resources Defense Council, Inc.*, 421 U.S. 60, 75.

The grounds upon which the agency acted must be clearly disclosed in, and sustained by, the record. *Federal Trade Commission v. Sperry and Hutchinson Co.*, 405 U.S. 233, 249. The agency must "explicate fully its course of inquiry, its analysis and its reasoning." *Ely v. Velde*, 4 Cir., 451 F.2d 1130, 1139; see also *Appalachian Power Company v. Environmental Protection Agency*, 4 Cir., 477 F.2d 495, 507. After the fact rationalization by counsel in brief and argument does not cure non-compliance by the

agency with the stated principles. *Dry Color Manufacturers' Association, Inc. v. Department of Labor*, 3 Cir., 486 F.2d 98, 104, and particularly cases cited in n. 8.

The function of judicial review of agency action is to determine (1) authority of the agency, (2) compliance by the agency with the necessary procedural requirements, and (3) any claim that agency action is arbitrary, capricious, or an abuse of discretion. Citizens to Preserve Overton Park, Inc., 401 U.S. at 415-417. With these principles in mind, we turn to the regulations.

(2) Agency Authority.

The Eighth Circuit has held, *CPC International Inc. v. Train*, 8 Cir., 515 F.2d 1032, that the Administrator may not promulgate regulations establishing effluent limitations for existing sources. The Third and Seventh Circuits have held to the contrary. See *American Iron and Steel Institute v. Environmental Protection Agency*, 3 Cir., slip opinion filed November 7, 1975, p. 8; and *American Meat Institute v. Environmental Protection Agency*, 7 Cir., slip opinion filed November 24, 1975, p. 16. On the mentioned point we disagree with the Eighth Circuit and agree with the Third and Seventh Circuits. Our views on the effect of the regulations will be stated later. The conflict among the circuits emphasizes the confusion caused by this poorly drafted and astonishingly imprecise statute.

The regulations impose "effluent limitations guidelines." The quoted term appears nowhere in the Act. Section 301 refers to "effluent limitations"; § 304 to "guidelines"; and § 306 to "standards of performance." It may be that Congress intended § 304 guidelines to precede § 301 limitations. That did not occur. Under compulsion of a judicially ordered timetable, EPA combined the two steps. The question is the validity of the action taken. Nothing in the Act forbids surmounting the two steps in one jump.

Each party spends much effort in sustaining its position by analysis of the Act and its legislative history. Without going into any details, it is enough to say that the Act is

vague, uncertain, and inconsistent. Support can be had for diametrically opposed conclusions. Except for some statements in committee reports, see e.g. our opinion in No. 2237—*DuPont v. Train*, the two-volume, 1766 page, Legislative History is of little help. In it, statements can be found to uphold almost any position which one cares to take.

We are faced with the problem of making workable a vague, regulatory statute so as to attain the congressional objective that the discharge of pollutants be eliminated. This end may not be reached by quibbling over semantics. Ambiguity must be transformed into practicality.

Section 304(b) specifically authorizes the Administrator to publish "regulations, providing guidelines for effluent limitations." Nothing is said in § 301 about regulations. The source of power to impose § 301 limitations by regulations can only come from § 501(a) which authorizes the Administrator "to prescribe such regulations as are necessary to carry out his functions under this Act."

The question then is what are his functions. Section 101(d) says that he "shall administer this Act." The control technology mentioned in § 301(b)(1)(A) and (b)(2)(A) is that defined and determined by the Administrator under § 304. Section 301(e) refers to "[e]ffluent limitations established pursuant to this section" but does not say who does the establishing. The Act is unworkable unless someone takes the initiative in deciding what limitations are generally applicable to discharges, whether by individual plants, categories, subcategories, classification, or otherwise. Because the control technology is determined by the Administrator, it is reasonable that he establish the limitations generally applicable to categories. Such action is within the performance of his functions.

From a practical standpoint we find no objection to the combining of limitations and guidelines. The Administrator was faced with unrealistic statutory requirements and a court imposed timetable. He had the duty to proceed. His action was "sufficiently reasonable" and should

be accepted by a reviewing court. *Train v. Natural Resources Defense Council, Inc.*, 421 U.S. 60, 75. We conclude that he had authority to promulgate regulations establishing limitations for existing sources.

(3) Effect of Exercise of Authority.

The authority to promulgate the regulations must not be confused with the effect of those regulations. Industry says that the effect will violate the Act and, hence, the regulations are invalid.

In part the controversy is whether the regulations are § 301 limitations or § 304 guidelines. The regulations impose "effluent limitations guidelines." EPA says in effect that the regulations impose limitations which are applicable uniformly throughout the nation and, with some exceptions, must be mechanically cranked into each permit by the issuer. Industry says that the regulations are guidelines for the information of and consideration by, but not binding on, the permit issuer. Inherent in this dispute is the question of national uniformity versus state power and responsibility.

Section 101(a) refers to the "integrity of the Nation's waters," "the national goal," and "the national policy." Section 101(b) says that the policy of Congress is "to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution."

Subsections 402(a)(1) and (b)(1) say that the permits shall comply with §§ 301, 306, and other sections not including § 304. If national uniformity is controlling, state action in issuing permits is inhibited. If the regulations are informational, the states may exercise reasonable discretion in permit issuance.

The Act, § 502(11), defines "effluent limitation" to mean "any restriction established by a State or the Administrator." The pertinent regulation, 40 C.F.R. § 401.11(i), defines the same term to mean "any restriction established

by the Administrator." The conflict must be resolved in favor of the statute. Accordingly, an effluent limitation may be established either by a state or by the Administrator. However, we go around in a circle because § 402(d)(2) gives the Administrator veto power over state action. Section 401.11(i) is set aside and remanded for reconsideration.

For all sources, both existing and new, we believe that the solution which most nearly satisfies congressional intent is recognition that the regulations are presumptively applicable to permit applications. The regulations control unless that presumption is rebutted. Thus, national uniformity, subject to limited specific exceptions, is attained. The balance of general rule and narrow exceptions assures all possible uniformity without sacrifice of the flexibility needed to adjust for disparate plants in dissimilar circumstances.

Both the Act and the regulations recognize permissible variances. Section 301(c) empowers the Administrator to modify the requirements of § 301(b)(2)(A), 1983 phase, upon a showing that modified requirements "(1) will represent the maximum use of technology within the economic capability of the owner or operator; and (2) will result in reasonable further progress toward the elimination of the discharge of pollutants." Industry points out that this does not apply to the 1977 limitations. However, in each of the regulations applicable to the 1977 phase for those subcategories under consideration, there is recognition that adjustments may be appropriate for certain plants and provision for pertinent procedures. See e.g. 40 C.F.R. § 415.62 applying to chlorine. The differences between the provisions of the statute and those of the regulations are of no present concern. Both recognize and permit variances. In any event, the "best practicable control technology" for 1977 may not be construed more stringently than the "best available technology economically achievable" as ameliorated by the qualification of § 301(c) for 1983 limitations.

Provisions for variances, modifications, and exceptions are appropriate to the regulatory process. See *United States v. Allegheny-Ludlum Steel Corp.*, 406 U.S. 742, 755. They have been recognized in actions pertaining to environmental regulations. See e.g. *Portland Cement Association v. Ruckelshaus*, D.C. Cir., 486 F.2d 375, 399, cert. denied 417 U.S. 921, and *International Harvester Co. v. Ruckelshaus*, D.C. Cir., 478 F.2d 615, 641. The administration of these provisions in practice is a matter of speculation at the present. The question will arise when a claim for a variance is made in a permit application.

Neither the Act nor the regulations contain any variance provision for new sources. The rule of presumptive applicability applies to new sources as well as existing sources. On remand EPA should come forward with some limited escape mechanism for new sources.

In the discussion which follows we shall treat the regulations as presumptively applicable to both existing and new sources.

(c) Agency Compliance with Procedural Requirements.

The issues involved will be considered separately.

(1) Subcategories.

EPA imposed the limitations on the basis of subcategories. Industry desires that the limitations be fixed on the basis of individual plants.

The provision relating to the 1977 step, § 301(b)(1)(A), refers to "effluent limitations for point sources." For the 1983 step the provision, § 301(b)(2)(A), is "effluent limitations for categories and classes of point sources." The section applicable to new sources provides, § 306(b)(1)(A), that the Administrator shall publish "a list of categories of sources" which shall include specified industries.

"Point source" is defined, § 502(14), as a "conveyance *** from which pollutants are or may be discharged."

Read literally the 1977 requirement is for determination on the basis of individual discharges. The 1983 and new source requirements are on the basis of categories. We do not know the reason for the difference. Whatever it may have been, July 1, 1977, approaches and a holding that EPA must now start over and make the 1977 determinations on the basis of many thousands of individual plants would be chimerical. Practical considerations may not be ignored. A remand of all of the regulations pertaining to the 1977 step would result in administrative delay, have the potential of judicial review, and further postpone attainment of the Act's objectives. In the circumstances we accede to the EPA procedure of promulgating general regulations which impose presumptively applicable effluent limitations for all three steps on the basis of categories.

With regard to the 1977 step, the reference in § 301 (b)(2)(A) to "point sources" is taken to mean that Congress intended that the permit grantor should give individual attention to each "point source" and apply the factors specified in § 304(b)(1)(B). Some of those factors, e.g., "age of equipment and facilities involved," can only be applied on an individual basis. EPA recognized this problem when it included variance provisions in its regulations for the 1977 step. See e.g. 40 C.F.R. § 415.62 and the reference therein to factors which are "fundamentally different."

For the inorganic chemical manufacturing industry EPA established 22 subcategories based on the chemical product manufactured. In addition where dissimilar processes are used to manufacture the same product the limitations are refined to provide separate limitations within the subcategory.

The method of categorization adopted by EPA will reasonably effectuate the congressional objectives. Further subdivision might unduly complicate the administration of the Act. Rulemaking of necessity is general. Problems relating to specific factual situations are for determination at the permit-issuing stage.

(2) Use of single numbers.

The regulations impose limitations in terms of single numbers rather than in a range of numbers. Industry attacks this method saying in effect that EPA promulgated guidelines and that guidelines are not absolutes. Nothing in the Act prohibits the Administrator from using single numbers in establishing effluent limitations. The use of a single number limitation for discharge, permits any discharge from zero up to the allowed amount, subject always to the principle of presumptive validity which we have stated.

We are aware that the Third Circuit, *American Iron and Steel Institute v. Train*, supra, has held that the regulations there considered are invalid because "they failed to provide meaningful ranges or guidance in considering individual factors." Slip opinion at p. 37. On the facts presented to us, we cannot accept that conclusion. The EPA has promulgated zero discharge limitations with regard to many of the discharge sources which are before us. If a range is required, a zero discharge provision violates the Act. An objective of the Act is the elimination of all pollutant discharges by 1985. § 101(a)(1). The expertise of the Administrator is persuasive as to whether the limitations be fixed in single numbers or ranges. A claim of arbitrary action in this regard may be considered in court review under § 509(b)(1)(E) of the issuance or denial of a permit. Then specific facts may be presented and the problem will be actual rather than hypothetical. It may be that with some categories ranges are desirable and with others single numbers are appropriate. We are dealing with the general problem and decline to make advisory statements covering specific applicability. For the purposes of the suit before us relating to "inorganic chemicals manufacturing," we accept the Administrator's use of single numbers.

(3) Statutory Factors.

Section 304(b)(1)(B), 1977 step, and § 304(b)(2)(B), 1983 step, specify factors to be taken into account to

determine control measures. For existing sources, these are essentially the same except in one respect. The 1977 step includes "consideration of the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application." A balancing is required. For the 1983 step there is no reference to balancing and the listed factors include "cost of achieving such effluent reduction." For new sources the requirement is the effluent reduction "achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives." § 306(a)(1).

A basic problem is the effect to be given the factors specified in § 304(b)(1)(B) and (2)(B). Section 301, which provides for effluent limitations, says in its subsection (1)(A) that the 1977 step requires the technology "as defined by the Administrator pursuant to section 304(b) of the Act." For the 1983 step the language is "in accordance with regulations issued by the Administrator pursuant to section 304(b)(2) of this Act." We know of no reason for the change in language. Be that as it may. The reference in § 301 to § 304 must mean that Congress intended that the factors specified in § 304 are pertinent to effluent limitations established under § 301. Some of the specified factors are of practical applicability only to individual plants, for example "age of equipment and facilities involved." We construe the congressional intent to be that the specified factors shall be applied by the permit issuer in determining whether the presumptively valid effluent limitations should apply to a particular source of discharge. This construction does not derogate the power of the Administrator to issue general regulations fixing presumptively valid effluent limitations on categories.

With reference to the cost-benefit provision Industry contends that EPA must first make an overall cost/benefit analysis and then elaborate how that analysis shall be applied in the consideration of permits for individual plants. We believe that an overall cost/benefit analysis for each subcategory satisfies the statutory requirements. Such

an analysis for each of the many thousands of dischargers and permit applicants would be impractical for general regulations. In acting on permit applications, the issuer will properly consider cost/benefit analysis along with the other factors specified in § 304(b).

We reject the argument of Industry that benefits must be quantified in monetary terms. Nothing in the Act requires this action.

Industry says that as to existing sources EPA is confined to "end of the pipe" treatment systems. The Act does not so provide. The provisions applicable to both the 1977 and 1983 phases, § 304(b)(1)(B) and (2)(B) refer to "measures and practices" and direct the Administrator to consider "process changes."

Both the mentioned subsections require EPA to consider "non-water quality environmental impact (including energy requirements)." Pollutant wastes which may not be recycled and for which there is no commercial market have to be disposed of in some other way. They may be discharged into water, vented into the air, or collected in a land-fill. Air discharge brings into play the Clean Air Act, 42 U.S.C. § 1857 et seq. Land-fills present local problems and the application of local laws. We believe that EPA has given adequate consideration to the non-water environmental impact except in the cases of certain subcategories to be mentioned later.

Energy requirements present a serious problem in the light of the existing energy crisis with spiraling prices. Unquestionably, many of the regulations will require the use of more energy. EPA and Industry are in sharp dispute over the amounts and costs of the energy required. We do not know which is right. One thing is certain. Costs to the consumers will rise. So far as the inorganic chemical manufacturing category is concerned we are satisfied with the EPA actions, except insofar as later mentioned subcategories raise problems.

For the 1977 phase the requirement is "the application of the best practicable control technology currently avail-

able." § 301(b)(1)(A). The Industry reply brief in Nos. 74-1261 etc. at 44 acknowledges that "the 1977 effluent guidelines can be based on the performance of the best plants or performance achieved by no plant if the Agency finds that the level of achievement in the subcategory is uniformly inadequate." Industry conceives of problems which will arise when plants in a subcategory use different processes. This matter is best considered in connection with the specific subcategories.

For the 1983 phase the requirement is "application of the best available technology economically achievable." § 301 (b)(2)(A). In this regard Industry concedes, Ibid., that "the Agency may look to the best performer and even assess technologies that have not been applied." The concern of Industry is the adequacy of the variance provisions. We will not assume inadequacy. The problem can be considered when and if it arises.

For new sources, § 306(a)(1), standards of performance must be both "available" and "demonstrated." Problems connected with new source standards for specific subcategories will be dealt with in our discussion of those subcategories.

With the exceptions noted, we believe that EPA has satisfied the statutory procedural requirements.

(d) Relationship of the three steps.

The problem here is the relationship of the 1977 limitations, the 1983 limitations, and the new source standards. The orderly progression is (1) 1977 limitations, (2) new source standards, and (3) 1983 limitations. No instance is called to our attention in which the 1977 limitations are more strict than the new source standards or the 1983 limitations. At times the 1977 limitations are the same as the new source standards.

The difficulty arises from uncertainty as to the relationship of the 1983 limitations to the new source standards. Industry says that the 1983 limitations may not be more

stringent than the new source standards. We are thrust into another area of confusion. Section 306(d) prescribes a grace period. It concerns "standard of performance," a term specifically defined in § 306(a)(1). We do not know whether Congress intended to equate "effluent limitations" as used in § 301(b) and defined in § 502(11) with "standard of performance." Nor do we know the intent of Congress with reference to the applicability of the grace period to plants the construction of which began after the passage of the Act in 1972 and before the promulgation of the regulations in 1974. All we can say is that nothing pertaining to § 306(d) is before us. The construction and application of § 306(d) is for decision when a specific controversy is presented.

Improvements in the techniques of waste disposal can be reasonably expected by 1983. Except for such situations as are later determined to be within the § 306(d) grace period, plants which go on the line between the passage of the Act and 1983 are subject to the 1983 limitations.

The language of the Act is such that the 1983 limitations, to some extent, must be anticipatory. We do not know what will be "the best available technology economically achievable" in 1983. See § 301(b)(2)(A). Section 304(b) requires the publication of regulations within one year. In 1974 the Administrator promulgated regulations setting forth 1983 limitations. Industry was under the statutory compulsion of bringing a petition for review within 90 days of promulgation. See 509(b)(1). The circumstances thus require speculation as to what will be the 1983 technology.

We are presented with an anomaly. We cannot determine the validity of an unknown. Industry is entitled to know the limitations which will confront it in 1983. By its regulations EPA has told Industry what to expect in 1983 and by so doing has given Industry lead time within which to make such changes as may be necessary. For practical purposes our review at this time must be confined to a determination of whether the record discloses a rea-

sonable basis for belief that a new technology will be available and economically achievable.

Clarification may come through EPA review and revision of the regulations as provided in §§ 301(d) and 304(b). We assume EPA compliance with these provisions. See *United States v. Chemical Foundation, Inc.*, 272 U.S. 1, 14-15 and *Douglas v. Noble*, 261 U.S. 165, 170. Section 301(c) authorizes the Administrator to modify the 1983 requirements for a permit application filed after July 1, 1977. We assume that if industry believes that the technology on which the 1983 limitations are based is not available or economically achievable, it will seek modification. We realize that the modification procedure of § 301(c) does not include situations where permit applications were filed before July 1, 1977. If any controversy arises whether a point source, the application for which is filed before July 1, 1977, is entitled to a modification of the 1983 limitations, that controversy will then have to be determined. It is not now before us. Our concern is with general regulations.

Section 509(b)(1) permits a petition for review to be filed after the mentioned 90 day period "only if such application is based solely on grounds which arose after the ninetieth day." This provision, when coupled with the review and revision provisions of §§ 301(d) and 304(b) provides a mechanism for future administrative and judicial action on the basis of actual rather than anticipated conditions.

In our later discussion of the 1983 requirements, we recognize the problems which have been mentioned. In each instance where we set aside a 1983 regulation we do so on the basis of technical objections, either conceded or presently apparent. We decline to engage in speculation.

(e) Arbitrary and capricious action.

EPA actions in promulgating the regulations may not be arbitrary, capricious, or an abuse of discretion. Except as noted in our discussion of specific subcategories, we believe that the regulations do not violate the stated principle.

II

VALIDITY OF PARTICULAR REGULATIONS PERTAINING TO MORE THAN ONE SUBCATEGORY

(a) Definitions of "process waste water" and "process waste water pollutants."

Each of the attacked subparts of 40 C.F.R. Part 415 incorporates the definitions found in 40 C.F.R. § 401. "Process waste water" is defined by § 401.11(q) and "process waste water pollutants" by § 401.11(r).

With particular reference to chlorine, EPA says (Brief in Nos. 74-1261 etc., p. 97) that it will amend the "process waste water" definition "to make clear that it does not extend, in the context of no discharge standards, to unavoidable leaks and spills."

With particular reference to nitric acid, EPA says (Brief in Nos. 74-1261, etc. at 118) that:

> "***the Agency is preparing a proposed amendment to the definition of 'process waste water' and 'process waste water pollutant.' (40 C.F.R. sec. 401.11(q)(r)) which will make clear that in the case of point sources subject to a no discharge limitation, water which has had only incidental contact with raw materials, intermediate products, finished products, byproducts or waste products will not constitute process waste water."

Accordingly, § 401.11(q) and (r) are set aside and remanded for reconsideration.

(b) Catastrophic rainfall.

A number of the regulations pertaining to 1983 limitations and new source standards contain exceptions relating to catastrophic rainfall. For example §§ 415.93(b)(2) and 415.95(b)(2), relating respectively to 1983 limitations and new source standards for hydrogen peroxide production, provide:

> "A process waste water impoundment which is designed, constructed, and operated so as to contain the precipitation from the 25 year, 24 hour rainfall event as established by the National Climatic Center, Na-

> tional Oceanic and Atmospheric Administration for the area in which such impoundment is located may discharge that volume of process waste water which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 25 year, 24 hour rainfall event, when such event occurs."

The first difficulty is with the word "impoundment." We are not sure what it means in the context in which it is used. Industry's objections go to the extent of the included area. In its discussion of hydrofluoric acid EPA says (Brief in Nos. 74-1261, etc. p. 106) that it will propose an amendment to 40 C.F.R. § 415.81 defining the term "within the impoundment." We believe that the new definition should apply to all regulations now using the term.

Industry objects to the test stated as "the 25 year, 24 hour rainfall event." It says that this was added in the final regulations and it did not have an opportunity to comment. We are referred to nothing in the record which justifies the test. The problem is for the experts and should be solved administratively rather than judicially. Industry says that in an area where precipitation exceeds evaporation the regulation requires an infinitely expanding pond to contain all rainfall (less evaporation) that may fall other than during a catastrophic storm. Absent facts of which we are not aware, the position of industry appears correct. The catastrophic rainfall provisions should be the same for the 1983 phase and for new sources. Rain will affect each.

The various regulations pertaining to catastrophic rainfall are set aside and remanded for reconsideration. The specific regulations affected will be mentioned in the discussion of pertinent subcategories.

III
SPECIFIC SUBCATEGORIES

(1) Chlorine—40 C.F.R. Part 415, Subpart F.

This subpart relates to discharges of pollutants from the production of chlorine and sodium or potassium hydroxide

by the diaphragm cell process and by the mercury cell process. The regulations provide specified limits for pollutant discharge at the 1977 deadline (§ 415.62) and for new sources (§ 415.65). For the 1983 deadline the requirement is no discharge (§ 415.63).

The record pertaining to the 1983 no discharge provision presents unexplained inconsistencies. The Development Document says, App. 5778, that, "There is no known problem which has not been solved by at least one plant of this survey." Contrariwise, EPA in its preamble for proposed rulemaking effluent limitations guidelines for the inorganic chemical industry says, 38 Fed. Reg. 28180, with reference to chlorine plants using the diaphragm and mercury process that "no plants are currently achieving no discharge of process waste water pollutants." If EPA has any explanation of the inconsistency, it is so hidden in a mass of technical detail that we cannot find it.

We have heretofore discussed the relationship between the three steps, 1977, 1983, and new sources. We have also mentioned the waste water definitions and the catastrophic rainfall provisions, all of which are pertinent to § 415.63. Until we know what changes EPA will make and what will be the effect thereof, there is no need to consider the problem further.

Section 415.63 is set aside and remanded for reconsideration.

(2) Hydrochloric Acid—40 C.F.R. Part 415, Subpart G.

This subpart relates to discharges of pollutants from the production of hydrochloric acid by direct reaction of chlorine and hydrogen. The regulations provide for no discharge of pollutants by existing plants at both the 1977 (§ 415.72) and 1983 (§ 415.73) deadlines and by new sources (§ 415.75).

After referring to the waste water definitions, EPA says (Brief in Nos. 74-1261 etc. at 104-105) that it did not intend to subject hydrochloric acid plants to no discharge stan-

dards "for occasional sources of waste." Accordingly, a remand is required.

We doubt the propriety of EPA's use of Hooker Chemical plant as exemplary to support the no discharge requirements. The record shows that the Hooker plant has no discharge of pollutants "during normal operation" but does during "start-up of production runs." The EPA explanation of the technology applicable to the start-up discharges is not convincing and we doubt whether Hooker can be treated as an exemplary plant. On remand, EPA must clearly articulate its position in these regards.

Sections 415.72, 415.73 and 415.75 are set aside and remanded for reconsideration.

(3) Hydrofluoric Acid—40 C.F.R. Part 415, Subpart H.

This subpart relates to discharges of pollutants from the production of hydrofluoric acid. The regulations provide specific limits for pollutant discharge at the 1977 deadline (§ 415.82) and for no discharges at the 1983 deadline (§ 415.83) and for new sources (§ 415.85). Provisions relating to catastrophic rainfall are included in each of the mentioned regulations.

On January 9, 1975, EPA published proposed new regulations for hydrofluoric acid. See 40 Fed. Reg. 1712. The comment period has expired but we do not know what will be the ultimate result. EPA does not expect to promulgate final amendments before March, 1976. In the circumstances, the preferable procedure is to nullify the existing regulations.

Sections 415.82, 415.83, and 415.85 are set aside and remanded for reconsideration.

(4) Hydrogen Peroxide—40 C.F.R. Part 415, Subpart I.

This subpart relates to discharges of pollutants from the production of hydrogen peroxide by the electrolytic process and by the oxidation of alkyl hydroanthraquinones (organic process). The regulations provide specified limits

for pollutant discharge at the 1977 (§ 415.92) deadline and no discharge at the 1983 (§ 415.93(a)) deadline and for new sources (§ 415.95(a)) for plants using either process. As to plants using the electrolytic process the no discharge provisions for 1983 and for new sources contain catastrophic rainfall exceptions (§§ 415.93(b)(2) and 415.95 (b)(2)).

EPA says (Brief in Nos. 74-1261 etc. at 192 and Brief in Nos. 74-1296 etc. at 42) that it will reevaluate the 1983 and new source provisions pertaining to the organic process (§§ 415.93(a) and 415.95(a)).

Industry attacks the 1983 no discharge provision for plants using the electrolytic process. The FMC plant at Vancouver, Washington, is the only plant in the United States using this process for hydrogen peroxide production. The purity of its product permits it to compete with plants using the organic process. EPA's analysis (App. 1182-1183) shows that the differences in quality of influent well water and effluent discharge into the Columbia River are negligible. The discharges are environmentally insignificant. We cannot comprehend how a change from the present process to the EPA technology, evaporation and landfill, will be beneficial. Because EPA is to reexamine its waste water definitions and because of the difficulties which we have noted with the catastrophic rainfall provisions, this regulation must be remanded. On reconsideration, EPA must give consideration to the total environmental impact.

The no discharge regulation for new electrolytic plants must also be remanded. Our comments on the definitions of waste water and on the catastrophic rainfall provisions are as applicable here as they are to the 1983 requirements for existing plants.

Sections 415.93 and 415.95 are set aside and remanded for reconsideration.

(5) Nitric Acid—40 C.F.R. Part 415, Subpart J.

This subpart relates to the discharges of pollutants from the production of nitric acid in concentrations up to 68 per-

cent. The regulations provide for no discharges at the 1977 and 1983 deadlines for existing plants (§§ 415.102 and 415.103) and for new sources (§ 415.105).

EPA concedes, with particular reference to nitric acid, that the waste water definitions must be reconsidered both as to existing plants (§§ 415.102 and 415.103) and as to new sources (§ 415.105). See EPA brief in Nos. 74-1261 etc. at 117-118 and in Nos. 74-1296 etc. at 66-67.

On the recycling problem, the record is so confused that we cannot say with any certainty which party is right. Hopefully, the remand will result in clarification. On the cost analysis, Industry objects to EPA's use of information obtained from sulfuric acid plants. EPA responds that in the time available it had no alternative. Now, it has had more time and should specify the facts and reasons on which its conclusions are based.

Sections 415.102, 415.103 and 415.105 are set aside and remanded for reconsideration.

(6) Sodium Carbonate—40 C.F.R. Part 415, Subpart O.

This subpart relates to discharges of pollutants from the production of sodium carbonate by the Solvay process. The regulations applicable to existing sources both at the 1977 and 1983 deadlines (§§ 415.152 and 415.153) specify the permissible discharges with reference to both TSS and pH. TSS means total suspended nonfilterable solids. § 401.11 (s)(5). The term pH is a logarithmic expression of the concentration of hydrogen ions in water, with 7 pH indicating a neutral condition. Lower pH values show acidity and higher values alkalinity. For new sources the requirement is no discharge (§ 415.155).

EPA admits errors in the TSS requirements (Brief in Nos. 74-1261 etc. at 134) and says (Ibid. at 135) it will "not oppose a remand of the suspended solids limitations in 40 C.F.R. Section 415.152 and 415.153 for consideration of the appropriate flow rate and the projected economic impact on the industry."

Industry contends that the pH requirement should also be remanded. We agree. Nothing in the record sustains the EPA conclusion that neutralization of the inherently alkaline effluent from a sodium carbonate plant is practicable or economically achievable. The justification in the brief is no substitute for agency action not sustained by the record. Also, the cost of neutralization should be considered along with the cost of removal of suspended solids. On remand EPA should make clear the technologies which it deems available.

The regulation for new sources mandates that there be no discharge. This is in conflict with the EPA statment, 38 Fed. Reg. 28179, that:

> "§ ***no technology is available and economically achievable for the elimination of discharge from Solvay plants."

The EPA brief comments (Brief in Nos. 74-1296 at 53) that "The Solvay process generates staggering quantities of waste products." It also says (Ibid.):

> "As has been seen, there are practicable alternatives to discharge from a new Solvay plant if one is ever built. The Agency properly set the standard of performance for this unlikely plant."

The EPA alternatives are (1) use of deep well injections and (2) production of sodium carbonate by the Trona ore process. Both of these present non-water environmental problems. Deep-well injection raises both federal and state problems and has been the subject of EPA litigation. See *e.g. United States v. Armco Steel Corporation*, S.D. Tex., 333 F. Supp. 1073. Trona plants present an air pollution problem which EPA has recognized. See 39 Fed. Reg. 25339.

Industry argues that EPA has no statutory power to force industry to use a certain process. There is no need to explore the legal ramifications of this contention. It is enough to say that the technology on which EPA bases its new source standards is neither available nor demonstrated when regard is had for non-water environmental impact.

Sections 415.152, 415.153, and 415.155 are set aside and remanded for reconsideration.

(7) Sodium Dichromate—40 C.F.R. Part 415, Subpart Q.

This subpart relates to discharges of pollutants resulting from the production of sodium dichromate and by-product sodium sulfate. The regulations provide for permissible, specified discharges by existing plants at the 1977 deadline (§ 415.172) and by new sources (§ 415.175). No pollutant discharge is permitted at the 1983 deadline except discharges attributable to catastrophic rainfall (§ 415.173).

Industry attacks the 1983 no discharge provision. In its discussion of sodium dichromate, EPA said, 39 Fed. Reg. 9614:

> "The proposed new source performance standards were based on evaporation to attain no discharge of process waste water pollutants. Considering nonwater environmental aspects, the new source performance standards have been revised to require good water conservation and best practicable technology."

EPA's rationalization of its actions is not convincing. It says (Brief, Nos. 74-1261 etc. at 171) that "[a]s to the reasonableness of the Administrator's conclusion that evaporation represents an available technology for 1983, there can be no serious challenge." It then says (Ibid. at 173) that its new source provision was in response to Industry's concern that "evaporation had not been sufficiently demonstrated on the volumes encountered in the manufacture of sodium dichromate." It also says (Ibid. at 174) that it deferred imposition of zero discharge for existing sources until 1983 "because of its reassessment of the technological development of evaporative systems on waste loads as large as those generated by this subcategory, as well as energy consumption demands in a time of general concern about energy supply." We are confused rather than convinced. The manufacture of sodium dichromate produces large quantities of waste discharges. Disposition of these wastes by evaporation imposes a severe demand on use of energy.

EPA does not disclose what evaporative technology it uses in making its cost analysis, its energy study, or its consideration of the non-water environmental impact.

In essence EPA asks us to have faith in its expertise and, on that ground, uphold its actions. Judicial review must be based on something more than faith and respect. Confidence and deference do not substitute for reasoned analysis sustained by the record. In the circumstances we see no need to explore the technical arguments of the parties going to environmental impact, costs, and energy requirements. We are hopeful that on remand EPA will give further consideration to these problems.

Section 415.173 is set aside and remanded for reconsideration.

(8) Sodium Metal—40 C.F.R. Part 415, Subpart R.

This subpart relates to discharges of pollutants from the production of sodium metal by the Downs cell process. The regulations provide specified limits for pollutant discharge at the 1977 deadline (§ 415.182) and no discharge at the 1983 (§ 415.183) deadline and for new sources (§ 415.185). The no discharge provisions for 1983 and for new sources contain catastrophic rainfall exceptions (§§ 415.183(b) and 415.185(b)).

The pertinent Industry brief is presented by Stauffer Chemical Company. EPA says that Stauffer has no standing because it is not a producer. Stauffer is admittedly a purchaser and user of sodium metal. Section 509(b)(1) of the Act authorizes review "by any interested person." Section 502(5) defines "person" to include "a corporation." Accordingly Stauffer has the requisite standing.

Industry attacks the 1977 requirement that the TSS average daily discharge shall not exceed 23 kilograms per 1,000 kilograms of product. EPA says that this can be achieved by use of "well designed settling basins." With general reference to the inorganic chemical industry, the Development Document says that the performance and cost of

settling basins "depends on the amount of waste involved and the settling characters of the solids suspended." The trouble is that EPA does not demonstrate how this general principle applies to sodium metal. EPA exemplary plant, the DuPont plant at Memphis, does not achieve the requirement of the regulation.

Industry says that EPA imposed the no discharge limit without regard for the environmental impact or the energy costs, factors which § 304(b)(2)(B) of the Act requires EPA to specify. Specifically, Industry says that EPA did not take into account the cost of solid waste disposal and failed to consider energy requirements. The unsatisfactory EPA response is that it did pay attention to these factors and that it developed estimates for all treatment measures of general application to the inorganic chemical industry. It does not relate any of these to the particular conditions found in the sodium metal industry.

EPA concedes (Brief in Nos. 74-1261 etc. at 167) that the Development Document does not "include significant energy costs associated with no discharge." It goes on to say that it estimated the capital cost of attaining no discharge. An estimate of capital cost is not consideration of the environmental impact or of the energy requirement.

Because we are convinced that the 1983 regulation must be set aside, we need not delve into the detailed attack made by Industry on the EPA technology or the complex answers thereto. On remand EPA must do a better job of articulating the facts and reasons upon which its conclusions are based.

EPA justifies its no discharge requirement for new sources by reliance on the "technological basis" for the 1983 limitations (Brief in Nos. 74-1296 etc. at 30). Because we set aside the 1983 regulation, no need exists for further discussion of the problem in connection with new sources.

Our earlier action in regard to the catastrophic rainfall provisions applies to both the 1983 and new sources provisions.

Sections 415.182, 415.183 and 415.185 are set aside and remanded for reconsideration.

(9) Sodium Silicate—40 C.F.R. Part 415, Subpart S.

This subpart relates to the discharge of pollutants from the production of sodium silicate. The regulations applicable to existing sources by July 1, 1977, specify the permissible discharges. § 415.192. For 1983 and for new sources no pollutant discharge is permitted. §§ 415.193 and 415.195.

Consideration of the sodium silicate regulations stretches our patience to the breaking point. EPA did not furnish the data on its exemplary plant until after the Industry's first brief. After receipt of the data, counsel for Industry wrote counsel for EPA expressing concern over the fact that the EPA contractor (Industry reply brief in Nos. 74-1261 etc. at App. F):

> "viewed the plant as having exemplary recycle (when the contractor's sheets do not mention recycle) and evaporation (in an area where precipitation is twice the evaporation rate)."

After mentioning other matters the letter said:

> "We hope that you will agree that the issues as to the record and the basis for the sodium silicate guidelines and standards of performance are matters better resolved by administrative than by judicial consideration."

We agree with counsel. The strained effort in the EPA brief to justify the agency actions leaves us in a state of extreme confusion. We have examined every record reference made by EPA. They are cryptic, mystic, and enigmatic. If there is to be any worthwhile judicial review of agency action, that action must be presented and supported in a manner capable of judicial understanding. It is enough to say that EPA has not shown that its technology is available, achievable, or demonstrated. The mandates of the Act have not been obeyed.

Sections 415.192, 415.193, and 415.195 are set aside and remanded for reconsideration.

(10) Sulfuric Acid—40 C.F.R. Part 415, Subpart U.

This subpart relates to discharges of pollutants from the production of sulfuric acid in single and double adsorption plants. The regulations provide for no discharge of pollutants by existing plants at both the 1977 (§ 415.212) and 1983 (§ 415.213) dates and by new sources (§ 415.215).

Industry objects to the inclusion of plants using certain processes. On January 31, 1975, EPA amended the applicability section (§ 415.210) of this subcategory. See 40 Fed. Reg. 5523. We are not told what is the effect of the amendment. Without this knowledge we cannot evaluate the regulations as they now read.

Also we have the problem of the definitions of "process waste water" and "process waste water pollutants." These are found in § 401.11(q) and (r) which we have set aside and remanded. EPA should assess the effect of the definitions on sulfuric acid plants. Because we do not know what will be the result of changed definitions on the no discharge requirements of §§ 415.212 and 415.213, those regulations are set aside and remanded for reconsideration.

Industry and EPA are in apparent agreement that single adsorption plants which are required to install tail gas scrubbers should not be held to the zero discharge requirement (Briefs in Nos. 74-1261 etc., EPA at 126 and Industry reply brief at 97). EPA says that such a plant would be entitled to a variance from the 1977 requirement and that the variance may be given by the permit issuer under the provision of § 415.212. Industry points out that the variance procedure is not applicable to the 1983 requirement. It would appear that the variance and review provisions of § 301(c) and (d) of the Act furnish adequate protection to Industry. Because EPA must reconsider the zero discharge provisions, it might be that the solution is to exclude the plants in question from regulation coverage. On remand EPA should consider this problem.

Industry raises two points in connection with the no discharge requirement for new sources. The first refers to the definition of process waste water which has been discussed in connection with other categories. With relation to sulfuric acid EPA concedes (Brief in Nos. 74-1296 etc. at 61) that "no discharge of contaminated cooling water is practicable for all plants at all times." The second relates to the EPA redefinition of the applicability of the sulfuric acid category. In this regard our statements in connection with existing sources apply also to new sources.

Sections 415.210, 415.212, 415.213, and 415.215 are set aside and remanded for reconsideration.

(11) Titanium Dioxide—40 C.F.R. Part 415, Subpart V.

This subpart originally related to discharges of pollutants from the production of titanium dioxide by the sulfate process and by the chloride process. For each process the regulations specify permissible discharges for all three steps. §§ 415.222, 415.223, and 415.225.

A 1975 amendment to the applicability clause, 40 Fed. Reg. 5523-24, removed applicability "to wastes resulting from discharges from production by processes in which beneficiation of raw ilmenite ore and chlorination are inseparably combined in the same process step." We understand that the amendment affects the chloride process and we are not told what will be its effect. Industry makes the reasonable request that the court remand the chloride process regulations insofar as they apply to "a process that combines beneficiation of low grade ilmenite ore and chlorination." Industry reply brief in Nos. 74-1261 etc. at 163. The request is granted.

With regard to the sulfate process, the charges and countercharges of the parties are more theatrical than informative. The discharge of pollutants from plants using the sulfate process presents a serious problem. This fact does not excuse EPA from failing to disclose and articulate, in an understandable manner, its course of inquiry, anal-

ysis and reasoning. EPA relies on after-the-fact rationalization and argument in its brief. The brief in turn places heavy reliance on, and six times cites for record support, "App. 2278." This is a reproduction of a document which was prepared by some undisclosed person and which contains penciled notes made by an unknown writer. The cryptic allusions mean nothing to us.

The technology used by EPA to justify its regulations is not shown to be in use at any plant, either existing or pilot. EPA's continued reference to the American Cyanamid plant is unimpressive. That plant is not using the technology on which EPA relies, and it intends to use a proprietary treatment process which it refuses to disclose because of a confidentiality agreement. EPA has not demonstrated that the technology claimed to support its regulations is either available, practicable, economically achievable, or demonstrated. In the circumstances it is not necessary to explore the lengthy, technical arguments of the parties relating to costs and energy requirements.

Sections 415.220, 415.222, 415.223, and 415.225 are each set aside and remanded for reconsideration.

IV

The following regulations, all contained in 40 C.F.R., are severally set aside and remanded for reconsideration in the light of this opinion:

General

401.11(i)—Definition of "effluent limitation."

401.11(q)—Definition of "process waste water."

401.11(r)—Definition of "process waste water pollutants."

Chlorine

415.63—1983 step.

Hydrochloric Acid

415.72—1977 step.

415.73—1983 step.

415.75—New sources.

Hydrofluoric Acid

415.82—1977 step.

415.83—1983 step.

415.85—New sources.

Hydrogen Peroxide

415.93—1983 step.

415.95—New sources.

Nitric Acid

415.102—1977 step.

415.103—1983 step.

415.105—New sources.

Sodium Carbonate

415.152—1977 step.

415.153—1983 step.

415.155—New sources.

Sodium Dichromate

415.173—1983 step.

Sodium Metal

415.182—1977 step.

415.183—1983 step.

415.185—New sources.

Sodium Silicate

415.192—1977 step.

415.193—1983 step.

415.195—New sources.

Sulfuric Acid

415.210—Applicability.

415.212—1977 step.

415.213—1983 step.

415.215—New sources.

Titanium Dioxide

415.220—Applicability.

415.222—1977 step.

415.223—1983 step.

415.225—New sources.

JUDGMENT

United States Court of Appeals

FOR THE FOURTH CIRCUIT

No. 74-1261

E. I. DUPONT DE NEMOURS & CO.,

Petitioner,

CHAMBER OF COMMERCE OF THE UNITED STATES OF AMERICA,

Amicus Curiae.

ALLEGHENY POWER SYSTEM, INC., ET AL,

Amicus Curiae.

NEW JERSEY ZINC COMPANY,

Amicus Curiae.

AMERICAN PETROLEUM INSTITUTE AND ELEVEN MEMBER COMPANIES. (ASHLAND OIL, INC.; CONTINENTAL OIL COMPANY; EXXON CORP.; GULF OIL CORP.; PHILLIPS PETROLEUM COMPANY; SHELL OIL CO.; STANDARD OIL CO. OF CALIFORNIA; STANDARD OIL CO. OF OHIO; SUN OIL CO. OF PENNSYLVANIA; TEXACO, INC.; UNION OIL OF CALIFORNIA)

Amicus Curiae.

RMI, INC.

Amicus Curiae.

versus

RUSSELL E. TRAIN, as Administrator, Environmental Protection Agency,

Respondent.

NATURAL RESOURCES DEFENSE COUNCIL,

Amicus Curiae.

On Petition For Review Of An Order Of The Environmental Protection Agency

THIS CAUSE *came on to be heard upon the petition of* E. I. duPONT de NEMOURS & Company, *for review of*

an order issued against it by the Environmental Protection Agency on March 4, 1974; upon a certified list in lieu of a transcript of the record; and the said cause was argued by counsel.

ON CONSIDERATION WHEREOF, *it is ordered, adjudged and decreed by the United States Court of Appeals for the Fourth Circuit, that the following regulations, all contained in 40 C.F.R., are severally set aside and remanded for reconsideration in light of this opinion.*

General

401.11(i)—Definition of "effluent limitation."

401.11(q)—Definition of "process waste water."

401.11(r)—Definition of "process waste water pollutants."

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415.215—New sources.

Titanium Dioxide

415.220—Applicability.

415.222—1977 step.

415.223—1983 step.

415.225—New sources.

/s/ WILLIAM K. SLATE, II
Clerk